

REMARKS

A. Request for Reconsideration

Applicants have carefully considered the matters raised by the Examiner in the outstanding Office Action but remain of the position that patentable subject matter is present. Applicants respectfully request reconsideration of the Examiner's position based on the certified English translation of the priority document JP 2002-265415, the Declaration of Mr. Fukusaka, the amendments to the claims and the following remarks.

B. The Invention

The present invention is directed to a silver salt photothermographic material and an image forming method using the same. In one of the novel aspects of the invention, the photothermographic material is composed of a reducing agent of formula (1) and a hindered phenol compound of formula (2). The Inventors have discovered that the photothermographic material of the invention exhibits enhanced sensitivity, high maximum density, improved fogging and minimized deterioration over time.

C. Claim Amendments

Claims 1-18 are presented for further prosecution. Claims 1-14 are original claims in this Application, while claims 15-18 have been added by this amendment.

Claim 15 recites a photothermographic material having the reducing agent of formula (1) and the hindered phenol compound of formula (3). Support for claim 15 can be found in claims 1 and 11.

Claims 16-18 have been added to mirror claims 12-14 and to be dependent upon claim 15.

D. The Office Action

The Examiner had made 6 rejections in the Office Action. The rejections are: 1) claims 1-10 and 13 had been rejected as being anticipated by, or in the alternative, as being unpatentable over Oya (US 2001/0051319); 2) claims 1-14 had been rejected as being unpatentable over Fukui (US 2002/0102502) in view of Patent Specification 1543266 (PS '266); 3) claims 1-14 had been rejected as being unpatentable over either EP 1327909 (EP '909) or EP 1278101 (EP '101) in view of Fukui; 4) claims 1-14 had been provisionally rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/336,920 in view of Fukui;

5) claims 1-14 had been provisionally rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/631,910 in view of Fukui; and 6) claims 1-14 had been rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of US Patent No. 6,699,649 in view of Fukui.

1. The publication dates of EP '909 and EP '101 are after the foreign priority date of this Application

EP 909 has a publication date of July 16, 2003. EP '101 has a publication date of January 22, 2003. The September 11, 2002 foreign priority date of this Application precedes the publication dates of both EP '909 and EP '101.

Applicants have enclosed a certified English translation of the priority document to perfect the claim of priority in this Application. It is respectfully submitted that the priority document clearly supports the invention herein and that EP '909 and EP '101 are no longer prior art, and the rejection based on EP '909, EP '101 and Fukui is moot.

2. Oya does not direct one of skill to the specific reducing agent of the present invention

Oya had been cited to teach the photothermographic material of the invention. The Examiner had pointed to formulas (1) and (2) of Oya as teaching formulas (1) and (2) of claim 1.

Formula (1) in paragraphs [0011-0012] of Oya contains the bridging group "L" consisting of $\text{-CH(V}^9\text{)-}$ or -S- . Oya explains that " V^9 " can be a hydrogen atom or a substituent [0027]. Oya then goes on to list 24 substituents [0027]. Oya therefore teaches a very broad range of substituents as " V^9 ".

Only 2 substituents of Oya, the cyclic alkyl substituent and the aryl substituent, fall within the scope of formula (1) of claim 1. Oya provides no teaching or suggestion to select these 2 substituents from the wide range of substituents disclosed in paragraph [0024]. Oya therefore does not direct one of skill in the art to the claimed invention.

Furthermore, Oya teaches away from the reducing agent of formula (1) of claim 1. Oya discloses specific examples of his reducing agent in paragraph [0029]. However, none of these 34 exemplified reducing agents fall within formula (1) of claim 1 of the present invention. Oya therefore

leads one of skill in the art away from the reducing agent of formula (1).

Still further, Tables 1 and 2 in the Examples of Oya at paragraphs [0294-0296] do not employ a reducing agent of formula (1) of claim 1. Instead, Tables 1 and 2 of Oya employ reducing agents I-1 and II-2 which respectively correspond to Comparative reducing agents A and Comp-1 disclosed in Table 1 at page 123 of the present invention. Clearly, Oya does provide any motivation to select a reducing agent of formula (1) of claim 1. Rather, Oya provides motivation to select a reducing agent that does not fall within formula (1) of claim 1.

Applicants have provided a Declaration of Mr. Fukusaka to demonstrate the criticality of a reducing agent of formula (1) of claim 1 compared to the broad teachings of Oya. At the outset, Applicants note that the Declaration is unexecuted. However, it is respectfully requested that the Declaration be considered to advance prosecution of this Application. The information contained in the Declaration originated with Mr. Fukusaka and is therefore entirely reliable. An executed copy will be forwarded to the Examiner as soon as becomes available.

Mr. Fukusaka prepared and evaluated two photothermographic material samples. Comparative Sample 1 was prepared in accordance with photothermographic material 203 in Table 2 at paragraph [0296] of Oya. Comparative Sample 1 therefore contained reducing agent I-1 and hindered phenol compound II-6 of Oya. Reducing agent I-1 of Oya does not fall within formula (1) of claim 1 and corresponds to comparative reducing agent A in Table 1 at page 123 of the present invention.

Inventive Sample 2 was prepared similarly to Comparative Sample 1, except that reducing agent I-1 of Oya was replaced by reducing agent 1-1 at page 14 of the present invention. Reducing agent 1-1 falls within formula (1) of claim 1.

Samples 1 and 2 were evaluated in accordance with the evaluation method described at pages 124-127 of the Application. The results of the evaluations are disclosed in Table 3 of the Declaration.

Table 3 demonstrates that Inventive Sample 2 prepared in accordance with the present invention is superior to Comparative Sample 1 prepared in accordance with Oya. Specifically, Inventive Sample 2 exhibited enhanced sensitivity, higher maximum density and improved fogging which resulted in stabilized sensitivity and maximum

density of the outputted images compared to Comparative Sample 1.

Oya does not teach or suggest the superiority of the reducing agents of formula (1) of claim 1. Instead, Oya a) discloses a broad range of the substituents for the reducing agents in paragraph [0027], of which only 2 of the substituents fall within formula (1) of claim 1; b) teaches away from the reducing agents of the present invention in paragraph [0029] since none of the 34 exemplified reducing agents fall within formula (1) of claim 1; and c) teaches that reducing agents I-1 and I-2 in Table 2 in paragraph [0296] are novel reducing agents, whereas Table 1 at page 123 of the Application and the Declaration of Mr. Fukusaka demonstrate that the reducing agents of formula (1) of claim 1 are superior to reducing agents I-1 and I-2 of Oya.

Applicants therefore respectfully submit that the present invention is not obvious over the teachings of Oya.

3. Fukui and PS '266 do not teach or suggest the superiority of the reducing agents of formula (1) of claim 1

Fukui had been cited to teach the photothermographic material of the present invention. The Examiner had recognized that the linking group of the reducing agent of

formula (I) at paragraph [0025] of Fukui differs from the linking group of formula (1) of claim 1, since "R¹³" of Formula (I) of Fukui does not include a ring group. Thus, Formula (I) at page 15 of PS '266 had been cited to teach that "R¹³" can be a ring group (see R³ and R⁴ substituents of Formula (I) of PS '226).

PS '266 teaches that the linking groups R³ and R⁴ are selected from a large range of groups (page 15, lines 1-14). Not all of the linking groups fall within formula (1) of claim 1 of the present invention. In addition, PS' 266 does not teach that the linking groups of formula (1) of claim 1 are superior to the remaining linking groups.

Applicants submit that a) one of skill in the art would not be motivated to select a reducing agent of formula (1) of claim 1 from the large group of reducing agents disclosed in PS '226; b) one of skill in the art would not be motivated to replace the linking group of Fukui with a linking group of PS '226 in order to achieve the reducing agent of formula (1) of claim 1; and c) the Declaration of Mr. Fukusaka demonstrates that the significance of the reducing agent of formula (1).

Mr. Fukusaka prepared and evaluated four photothermographic material samples. Comparative Samples 3 and 5 were respectively prepared in accordance with

photothermographic materials 1 and 7 in Table 1 at paragraph [0273] of Fukui. Comparative Sample 3 therefore contained reducing agent 1-1 and hindered phenol compound 2-3 of Fukui, while Comparative Sample 5 contained reducing agent 1-1 and hindered phenol compound 2-35 of Fukui. Reducing agent 1-1 of Fukui does not fall within formula (1) of claim 1 and corresponds to comparative reducing agent A in Table 1 at page 123 of the present invention.

Inventive Samples 4 and 6 were prepared similarly to Comparative Samples 3 and 5, except that reducing agent 1-1 of Fukui was replaced by reducing agent (f) at page 22 of PS '266. Reducing agent (f) of PS '266 falls within formula (1) of claim 1.

Samples 3-6 were evaluated in accordance with the evaluation method described at pages 124-127 of the Application. The results of the evaluations are disclosed in Tables 4 and 5 of the Declaration.

It is shown in Tables 4 and 5 that Inventive Samples 4 and 6 prepared in accordance with the present invention are superior to Comparative Samples 3 and 5. For instance, Inventive Samples 4 and 6 exhibited enhanced sensitivity, higher maximum density and improved fogging which resulted in stabilized sensitivity and maximum density of the outputted images compared to Comparative Samples 3 and 5.

Fukui and PS '266 do not teach or suggest the superiority of the reducing agents of formula (1) of claim 1. In addition, PS '266 does not direct one of skill in the art to select the reducing agent of formula (1) of claim 1 from the wide range of reducing agents disclosed at page 15, lines 1-14. Thus, Applicants submit that a) PS '266 discloses a broad range of the substituents for the reducing agents at page 15, lines 1-14, the majority of which do not fall within formula (1) of claim 1; b) one of skill in the art would not be motivated to select a reducing agent of formula (1) of claim 1 from the large group of reducing agents disclosed in PS '226; c) one of skill in the art would not be motivated to replace the linking group of Fukui with a linking group of PS '226 in order to achieve the reducing agent of formula (1) of claim 1; and d) the Declaration of Mr. Fukusaka demonstrates that the significance of the reducing agents of formula (1) of claim 1.

It is therefore respectfully submitted that the present invention is patentable over the teachings of Fukui and PS '266.

4. The Double Patenting Rejections

Claims 1-14 had been provisionally rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/336,920 in view of Fukui, as being unpatentable over claims 1-4 of copending Application No. 10/631,910 in view of Fukui; and as being unpatentable over claims 1-2 of US Patent No. 6,699,649 in view of Fukui.

Applicants will consider filing a terminal disclaimer to overcome these three rejections upon the indication of allowable subject matter in this Application. Until, that time, it is respectfully requested suspension of these rejections.

E. Conclusion

In view of the foregoing and the enclosed, it is respectfully submitted that the application is in condition for allowance and such action is respectfully requested. Should any extensions of time or fees be necessary in order to maintain this Application in pending condition,

appropriate requests are hereby made and authorization is
given to debit Account # 02-2275.

Respectfully submitted,

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Encl: Certified English translation of JP 2002-265415
Declaration of Mr. Fukusaka
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